



LD Biopharma, Inc.
7384 Trade Street, Suite B
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CT91-11R Protein
Catalog Number: hRP-2022
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human Ropporin-1A (ROPN1, also named as CT91) gene is found in the fibrous sheath of spermatazoa, where it interacts with rhophilin, a Rho GTPase binding protein. The CT91 can also bind an A-kinase anchoring protein (AKAP110) and a calcium-binding tyrosine phosphorylation-regulated protein (CABYR). Normally, this gene expression is restricted in human testis tissue, but it also expressed in a wide variety hematological tumor cells. As such, CT91 is a good candidate protein for anti-tumor vaccine development.

Full-length mature human CT91 cDNA (211aa, derived from BC132744) was constructed with codon optimization gene synthesis and expressed with T7-His-TEV cleavage site (29aa Tag) at N-terminal and 11 arginine (11R tag) at C-terminal. This protein was expressed in *E. coli* as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: CT91 (ROPN1; ODF6; RHPNAP1; ROPN1a)
Accession Number: NP_060048
Species: Human
Size: 10 µg / Vial
Composition: 0.1 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Amer MK et al., *Ropporin gene expression in infertile asthenozoospermic men with varicocele before and after repair*. Urology 85 (4), 805-808 (2015)



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Fiedler SE, et al., *Loss of ASP but not ROPN1 reduces mammalian ciliary motility.* Cytoskeleton (Hoboken) 69 (1), 22-32 (2012)

Chiriva-Internati M, et al., *Cancer testis antigen, ropporin, is a potential target for multiple myeloma immunotherapy.* J. Immunother. 34 (6), 490-499 (2011)

Salmaninejad A, et al. *Cancer/Testis Antigens: Expression, regulation, Tumor Invasion, and Use in Immunotherapy of Cancers.* Immunol Invest. Oct; 45(7): 619-640. (2016).

Nicole Brooks, et al. *Comparative Immunogenicity of a Cytotoxic T cell Epitope Delivered by Penetratin and TAT Cell Penetrating Peptides.* Molecules. 20, 14033-14050. (2015)

Madiha Derouazi, et al. *Novel cell penetration peptide based vaccine induces robust CD4+ and CD8+ T cell mediated antitumor immunity.* Cancer Res; 75(15) August 1, 3020-3031 (2015)

Applications

1. May be used for in vitro CT91 mediated anti-tumor immunotherapy for T cell activation study with this fusion protein for intracellular delivery in MHC-II pathway.
2. As immunogen for specific antibody production.

Quality Control

Purity: > 70% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGFEGAQTDKPTCIPPELPKMLKEFAKAAIRVQPQDLIQ
WAADYFEALSRGETPPVRRERSERVALCNRAELTPELLKILHSQVAGRLIIRAEEAQMWKVVNL
PTDLFNSVMNVGRFTEEIEWLKFLALACALGVITITKTLKIVCEVLSCDHNGGSPRIPFSTFQF
LYTYIAKVDGEISASHVSRMLNYMEQEVIGPDGIITVNDFTQNPRVQLEESGGGGSPGRRRRR
RRRRR